

STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley

TDEC-WPC

Knoxville FO 3711 Middlebrook Pike

Knoxville, TN 37921

K00002394 Lab ID:

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

K00002394001

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 12.1

Project Site No.:

Station No.:

EMORY012.1RO

Date/Time Collected:

05/20/2009 10:35

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **TDEC-WPC** TDEC-WPC

Priority Date:

05/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

:Hq

7.80

pH Units

Chlorine, residual:

Conductivity:

64

uMHO

mg/L

Temperature:

17.42

Dissolved Oxygen: 10.57

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	21	mg/L	0.7	1	P Leathers	5/27/2009

TEST: Residue, Settleable METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009

TEST: Residue, Suspended	ME	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394002

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 2.1

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected:

05/20/2009 11:33

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To:

327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

05/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.22

pH Units

Chlorine, residual:

Conductivity:

73

uMHO

Temperature:

18.57

Other:

Dissolved Oxygen: 8.66

mg/L

Flow:

CFS

TEST: Alkalinity, Total	ME:					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	22	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	26	mg/L	0.7	1	P Leathers	5/27/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	BY: DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	35	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394003

Project Name:

TVA-Ash Spill

pH:

Field Determinations

Dissolved Oxygen: 9.09

Conductivity:

Temperature:

Other:

Flow:

7.31

18.93

91

pH Units

uMHO

mg/L

CFS

Sample Description: Sampler Project Name: TVA ash spill

Approx 100' downstream from middle dredge pc Chlorine, residual:

Project Site No.:

2A

Station No.: Dredge Plume

Date/Time Collected: Sampler's Name:

05/20/2009 11:44

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 05/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT UNITS MDL		MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	22	mg/L	3.8	10	M Chen	5/27/2009	

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	27	mg/L	0.7	1	P Leathers	5/27/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009	

TEST: Residue, Suspended METHOD: SM 2540D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	16	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394004

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 1.9 at underwater weir

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

Sampler's Name:

05/20/2009 11:53

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code:

327.34-20

Send Report To:

TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 05/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.11

pH Units

Chlorine, residual:

Conductivity:

63

uMHO

Temperature:

18.00 **Dissolved Oxygen: 8.72**

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	WE.	THOD: EPA 31	0.2			<u></u>
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	21	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium	ME'	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	19	mg/L	0.7	1	S Burchfield	5/29/2009

TEST: Residue, Settleable	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009

TEST: Residue, Suspended	ME	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

Date/Time Collected:

K00002394005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA ash spill **Project Site No.:**

2B FB

Station No.:

EMORY001.9RO

Sampler's Name:

05/20/2009 11:53

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC **TDEC-WPC**

Priority Date:

05/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

CFS

Field Determinations

Chlorine, residual:

Dissolved Oxygen:

Conductivity:

Temperature:

pH:

Other:

Flow:

TEST: Alkalinity, Total	ME.	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY: DATE	
Total Alkalinity	U	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium	ME	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	P Leathers	5/27/2009

TEST: Residue, Suspended	ME.	THOD: SM 254	0D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	U	mg/L	10	10	A Peeples	5/22/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394006

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 1.9 at underwater weir

Project Site No.:

2B FD

Station No.:

EMORY001.9RO

Date/Time Collected:

05/20/2009 11:53

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code:

327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

05/30/2009

Date/Time Received:

05/20/2009

15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.11

pH Units

Chlorine, residual:

Conductivity:

63

uMHO

Temperature:

18.00 **Dissolved Oxygen: 8.72**

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	WE.	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	21	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium	ME.	THOD: SM 350	0-Ca D			-
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	20	mg/L	0.7	1	S Burchfield	5/29/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009

TEST: Residue, Suspended	ME	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	12	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394007

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA ash spill

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected:

05/20/2009 12:07

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To:

327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

05/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.24

pH Units

Chlorine, residual:

Conductivity:

104 17.33 uMHO

Temperature:

Dissolved Oxygen: 9.14

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	83	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium METHOD: SM 3500-Ca D							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	68	mg/L	0.7	1	P Leathers	5/27/2009	

TEST: Residue, Settleable	ME	ΓHOD: SM 254					
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009	

TEST: Residue, Suspended	WE	THOD: SM 2540	DD			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394008

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 0.1

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected:

05/20/2009 12:17

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

05/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.51

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature: 103

18.10

Dissolved Oxygen: 10.16

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	MET		····			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	96	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	76	mg/L	0.7	1	P Leathers	5/27/2009

TEST: Residue, Settleable ANALYTE	METHOD: SM 2540F					
	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009

TEST: Residue, Suspended	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394009

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Clinch River mile 2.3

Project Site No.:

Station No.:

CLINC002.3RO

Date/Time Collected:

05/20/2009 12:30

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To:

327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

05/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.86

pH Units

Chlorine, residual:

Conductivity:

179

uMHO

Temperature: Dissolved Oxygen: 10.65

16.40

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	92	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium	ME ⁻					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	78	mg/L	0.7	1	P Leathers	5/27/2009

TEST: Residue, Settleable	METHOD: SM 2540F					· · · · · · · · · · · · · · · · · · ·
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394010

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA ash spill

Project Site No.:

5A

Station No.:

KingAshOutF2

Date/Time Collected:

05/20/2009 12:38

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced: Priority Date:

TDEC-WPC 05/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Conductivity.	100	divii iO
Temperature:	18.90	

7.68

Chlorine, residual:

Conductivity:

169 иМНО

Field Determinations

Dissolved Oxygen: 9.58

mg/L

pH Units

Other: Flow:

pH:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	67	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium	ME.	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	64	mg/L	0.7	1	P Leathers	5/27/2009

TEST: Residue, Settleable	ME	THOD: SM 254		,			
ANALYTE	RESULT UNITS MDL		MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009	

TEST: Residue, Suspended	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394011

Project Name:

TVA-Ash Spill

Field Determinations pH:

7.91

pH Units

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley F Chlorine, residual:

uMHO

Sampler Project Name: TVA ash spill **Project Site No.:**

239

Conductivity: Temperature:

14.57

Station No.: Date/Time Collected: CLINC004.5RO 05/20/2009 12:49

Other:

Dissolved Oxygen: 10.78 mg/L

Sampler's Name:

Geoff Klein

Flow:

CFS

County: Sample Matrix: **ROANE - 73**

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC 05/30/2009

Priority Date: Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

TEST: Alkalinity, Total	ME.	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	5/27/2009

TEST: Hardness, Calcium	ME.	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	83	mg/L	0.7	1	P Leathers	5/27/2009

TEST: Residue, Settleable	ME	THOD: SM 254					
ANALYTE	RESULT UNITS MI		MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	5/21/2009	

TEST: Residue, Suspended	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	15	mg/L	10	10	A Peeples	5/22/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit



STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

Lab ID: K00002394

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00002394001

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 12.1

Project Site No.:

Station No.:

Date/Time Collected:

EMORY012.1RO 05/20/2009 10:35

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.80

pH Units

Chlorine, residual:

Conductivity:

64

uMHO

Temperature:

17.42

Dissolved Oxygen: 10.57

mg/L

Other:

Flow:

TEST: Digestion Metals	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/26/2009				S Ufegbu	5/26/2009

TEST: ICP	, ME	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	μg/L	2.9	10	A Bass	5/29/2009

TEST: ICP-MS	WE.	ΓHOD: EPA 20	0.8	· · · · · · · · · · · · · · · · · · ·		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	240	μg/L	64.0	100	A Wilson	6/8/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/2/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/2/2009
Barium	32	μg/L	2.5	5	A Wilson	6/2/2009
Beryllium	Ū	μg/L	0.11	1	A Wilson	6/2/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/2/2009
Chromium	3.0J	μg/L	2.0	5	A Wilson	6/2/2009
Cobalt	0.30J	μg/L	0.04	1	A Wilson	6/2/2009
Copper	3.2	μg/L	0.38	1	A Wilson	6/2/2009
Lead	0.42J	μg/L	0.10	1	A Wilson	6/8/2009
Manganese	37	μg/L	0.42	1	A Wilson	6/2/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/2/2009
Silver	U	μg/L	0.03	0.25	A Wilson	
Thallium	0.31J	μg/L	0.03	1	A Wilson	6/2/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/2/2009
Zinc	6.3	μg/L	1.9	5	A Wilson A Wilson	6/2/2009 6/8/2009

TEST: Mercury	METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA ash spill

.....

Project Site No.: Station No.:

1

: EMORY012.1RO

Date/Time Collected: Sampler's Name:

05/20/2009 10:35

County:

Geoff Klein ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To:
Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:
Date/Time Received:

06/30/2009 05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

Dissolved Oxygen: 10.57

Chlorine, residual:

Conductivity:

Temperature:

7.80

64

17.42

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Mercury	ME ⁻	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.07J	μg/L	0.029	0.2	A Bass	5/27/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394002

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 2.1

Project Site No.:

Station No.: Date/Time Collected:

EMORY002.1RO 05/20/2009 11:33

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

:Hq

7.22

pH Units

Chlorine, residual:

Conductivity:

· 73

uMHO

Temperature:

18.57

Dissolved Oxygen: 8.66

mg/L

Other:

Flow:

TEST: Digestion Metals	MET		· · · · · · · · · · · · · · · · · · ·			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/26/2009				S Ufegbu	5/26/2009

TEST: ICP	MET	ΓHOD: EPA 20	0.7			~
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	940	μg/L	2.9	10 .	A Bass	5/29/2009

TEST: ICP-MS	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	1900	µg/L	128.0	200	A Wilson	6/8/2009
Antimony	0.35J	μg/L	0.33	1	A Wilson	6/2/2009
Arsenic	7.6	μg/L	0.93	5	A Wilson	6/2/2009
Barium	79	μg/L	2.5	5	A Wilson	6/2/2009
Beryllium	0.46J	μg/L	0.11	1	A Wilson	6/2/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/2/2009
Chromium	3.4J	μg/L	2.0	5	A Wilson	6/2/2009
Cobalt	1.5	μg/L	0.04	1	A Wilson	6/2/2009
Copper	5.3	µg/L	0.38	1	A Wilson	6/2/2009
Lead	3.1	μg/L	0.10	1	A Wilson	6/8/2009
Manganese	130	μg/L	0.42	1	A Wilson	6/2/2009
Selenium	U	μg/L	1.3	5	A Wilson	
Silver	U	μg/L	0.03	0.25	A Wilson	6/2/2009
Thallium	0.29J	μg/L	0.03	1	A Wilson	6/2/2009
Vanadium	4.7J	μg/L	3.4	5		6/2/2009
Zinc	7.9	μg/L	1.9	5	A Wilson A Wilson	6/8/2009 6/2/2009

TEST: Mercury	MET	HOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA ash spill

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

05/20/2009 11:33 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Sampling Agency:

Knoxville

Billing Code: Send Report To:

TDEC-WPC 327.34-20 **TDEC-WPC**

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.22

pH Units

Chlorine, residual:

uMHO

Conductivity: Temperature: 73

18.57

Dissolved Oxygen: 8.66 mg/L

Other:

Flow:

CFS

TEST: Mercury	ME	ΓHOD: EPA 24	5.1	·		 '
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	5/27/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394003

Project Name:

TVA-Ash Spill

Sample Description:

Approx 100' downstream from middle dredge pc Chlorine, residual:

Project Site No.:

Sampler Project Name: TVA ash spill

2A

Station No.:

Dredge Plume

Date/Time Collected:

05/20/2009 11:44

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.31

pH Units

Conductivity:

91

uMHO

Temperature:

18.93

Dissolved Oxygen: 9.09

mg/L

Other:

Flow:

TEST: Digestion Metals	MET	METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/26/2009				S Ufegbu	5/26/2009

TEST: ICP	ME	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	580	µg/L	2.9	10	A Bass	5/29/2009

TEST: ICP-MS	ME	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	900	μg/L	64.0	100	A Wilson	6/8/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/2/2009
Arsenic	4.1J	μg/L	0.93	5	A Wilson	6/2/2009
Barium	53	μg/L	2.5	5	A Wilson	6/2/2009
Beryllium	0.14J	μg/L	0.11	1	A Wilson	6/8/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/2/2009
Chromium	2.7J	μg/L	2.0	5	A Wilson	
Cobalt	0.81J	μg/L	0.04	1	A Wilson	6/2/2009
Copper	2.9	μg/L	0.38	1	A Wilson	6/2/2009
Lead	1.4	μg/L	0.10	1	A Wilson	6/2/2009
Manganese	130	μg/L	0.42	1	A Wilson	6/8/2009
Selenium	Ü	μg/L	1.3	5		6/2/2009
Silver	Ū.	μg/L	0.03	0.25	A Wilson	6/2/2009
Thallium	0.19J	μg/L	0.03		A Wilson	6/2/2009
Vanadium	4.8J			1	A Wilson	6/2/2009
Zinc		μg/L	3.4	5	A Wilson	6/8/2009
	19	μg/Ľ	1.9	5	A Wilson	6/8/2007

TEST: Mercury	ME	HOD: EPA 24				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394003

Project Name:

TVA-Ash Spill

Sample Description:

Approx 100' downstream from middle dredge pc Chlorine, residual:

Field Determinations

Dissolved Oxygen: 9.09

Conductivity:

Temperature:

7.31

18.93

91

pH Units

uMHO

mg/L

CFS

:Ha

Other:

Flow:

Project Site No.:

Sampler Project Name: TVA ash spill

2A

Station No.:

Dredge Plume

Date/Time Collected:

05/20/2009 11:44

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

EFO: Sampling Agency: Water Knoxville

Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:**

TDEC-WPC

Date/Time Received:

06/30/2009

Received By:

05/20/2009 15:15

Ken Hitchman

ME1					
RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
U	μg/L	0.029	0.2	A Bass	5/27/2009
		RESULT UNITS	RESULT UNITS MDL	RESULT UNITS MDL MQL	RESULT UNITS MDL MQL ANALYZED BY:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA ash spill

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected: Sampler's Name:

05/20/2009 11:53

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date: Date/Time Received: 06/30/2009 05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.11

pH Units

Chlorine, residual: Conductivity:

63

Temperature:

18.00 **Dissolved Oxygen: 8.72**

mg/L

uMHO

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/26/2009				S Ufegbu	5/26/2009

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	330	μg/L	2.9	10	A Bass	5/29/2009	

TEST: ICP-MS	ME	THOD: EPA 20	0.8			······································
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	340	μg/L	128.0	200	A Wilson	6/8/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/8/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/8/2009
Barium	35	μg/L	2.5	5	A Wilson	6/8/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/8/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/8/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/8/2009
Cobalt	0.44J	μg/L	0.04	1	A Wilson	6/8/2009
Copper	3.0	μg/L	0.38	1	A Wilson	6/8/2009
Lead	1.1	μg/L	0.10	1	A Wilson	6/8/2009
Manganese	87	μg/L.	0.42	1	A Wilson	6/8/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/8/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/8/2009
Thallium	0.034J	μg/L	0.03	1	A Wilson	6/8/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/8/2009
Zinc	24	μg/L	1.9	5	A Wilson	6/8/2009

TEST: Mercury	ME	THOD: EPA 24	5.1		· · · · · · · · · · · · · · · · · · ·	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA ash spill

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

05/20/2009 11:53

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20

Agency Invoiced: **Priority Date:**

TDEC-WPC TDEC-WPC

Date/Time Received:

06/30/2009 05/20/2009 15:15

Received By:

Ken Hitchman

RESULT

U

METHOD: EPA 245.1

UNITS μg/L

MDL 0.029

0.2

MQL

Field Determinations

Dissolved Oxygen: 8.72

Chlorine, residual:

Conductivity:

Temperature:

7.11

63

18.00

:Hq

Other:

Flow:

ANALYZED BY: A Bass

DATE 5/27/2009

pH Units

uMHO

mg/L

CFS

TEST: Mercury ANALYTE

Mercury

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00002394005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Project Site No.:

Sampler Project Name: TVA ash spill

2B FB

Station No.:

EMORY001.9RO

Date/Time Collected: Sampler's Name:

05/20/2009 11:53

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Priority Date:

Ken Hitchman

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: **Dissolved Oxygen:**

Other:

Flow:

TEST: Digestion Metals		MET	HOD: EPA 20	0.2			
ANALYTE		RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	•	05/26/2009				S Ufegbu	5/26/2009

TEST: ICP	MET	ΓHOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	U	μg/L	2.9	10	A Bass	5/29/2009

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	μg/L	6.4	10	A Wilson	6/8/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/8/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/8/2009
Barium	U	μg/L	2.5	5	A Wilson	6/8/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/8/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/8/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/8/2009
Cobalt	U	μg/L	0.04	1	A Wilson	6/8/2009
Copper	Ŭ	μg/L	0.38	1	A Wilson	6/8/2009
Lead	U	μg/L	0.10	1	A Wilson	6/8/2009
Manganese	2.8	μg/L	0.42	1	A Wilson	6/8/2009
Selenium	U .	μg/L	1.3	5	A Wilson	6/8/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/8/2009
Thailium	U	μg/L	0.03	1	A Wilson	6/8/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/8/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/8/2009

TEST: Mercury	MET	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Project Site No.:

Sampler Project Name: TVA ash spill

2B FB

Station No.:

EMORY001.9RO

Date/Time Collected: Sampler's Name:

05/20/2009 11:53

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To:

TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature:

Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Mercury	ME		· · · · · · · · · · · · · · · · · · ·			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	5/27/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394006

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Project Site No.:

Sampler Project Name: TVA ash spill

2B FD

Station No.:

EMORY001.9RO

Date/Time Collected:

05/20/2009 11:53

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

Dissolved Oxygen: 8.72

pH:

7.11

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature: 63

18.00

mg/L

Other:

Flow:

TEST: Digestion Metals	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/26/2009				S Ufegbu	5/26/2009

TEST: ICP	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	330	μg/L	2.9	10	A Bass	5/29/2009

TEST: ICP-MS	MET	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	310	μg/L	64.0	100	A Wilson	6/8/2009
Antimony	U	μg/L	0.33	- 1	A Wilson	6/8/2009
Arsenic	1.1J	μg/L	0.93	5	A Wilson	6/8/2009
Barium	34	μg/L	2.5	5	A Wilson	6/8/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/8/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/8/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/8/2009
Cobalt	0.42J	μg/L	0.04	1	A Wilson	6/8/2009
Copper	1.5	μg/L	0.38	1	A Wilson	6/8/2009
Lead	0.51J	μg/L	0.10	1	A Wilson	6/8/2009
Manganese	91	μg/L	0.42	1	A Wilson	6/8/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/8/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/8/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/8/2009
Vanadium	Ü	μg/L	3.4	5	A Wilson	6/8/2009
Zinc	2.3J	μg/L	1.9	5	A Wilson	6/8/2009

TEST: Mercury	MET	HOD: EPA 24	5.1		· · · · · · · · · · · · · · · · · · ·	*
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394006

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA ash spill

Project Site No.:

2B FD

Station No.:

Date/Time Collected:

EMORY001.9RO 05/20/2009 11:53

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH: 7.11

pH Units

Chlorine, residual: Conductivity:

63

uMHO

Temperature:

18.00

Dissolved Oxygen: 8.72 mg/L

Other:

Flow:

CFS

TEST: Mercury	ME	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	5/27/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394007

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA ash spill

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected:

05/20/2009 12:07

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20

Agency Invoiced: **Priority Date:**

TDEC-WPC TDEC-WPC

Date/Time Received:

06/30/2009

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.24

pH Units

Chlorine, residual:

Conductivity:

104

uMHO

Temperature:

17.33

Dissolved Oxygen: 9.14

mg/L

Other:

Flow:

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/26/2009				S Ufegbu	5/26/2009

TEST: ICP	ME	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	250	μg/L	2.9	10	A Bass	5/29/2009

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	310	μg/L	64.0	100	A Wilson	6/8/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/8/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/8/2009
Barium	38	μg/L	2.5	5	A Wilson	6/8/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/8/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/8/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/8/2009
Cobalt	0.34J	μg/L	0.04	1	A Wilson	6/8/2009
Copper	2.7	μg/L	0.38	1	A Wilson	6/8/2009
Lead	0.48J	μg/L	0.10	1	A Wilson	6/8/2009
Manganese	56	μg/L	0.42	1	A Wilson	6/8/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/8/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/8/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/8/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/8/2009
Zinc	4.2J	μg/L	1.9	5	A Wilson	6/8/2009

TEST: Mercury	ME.	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394007

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA ash spill

Project Site No.:

Station No.:

Date/Time Collected:

EMORY001.7RO 05/20/2009 12:07

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date: Date/Time Received:

06/30/2009 05/20/2009 15:15

Received By:

TEST: Mercury

ANALYTE

Mercury

Ken Hitchman

METHOD: EPA 245.1

RESULT MDL UNITS MQL ANALYZED BY: DATE 0.05J μg/L 0.029 0.2 A Bass 5/27/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Field Determinations

:Ha

7.24

pH Units

Chlorine, residual:

Conductivity:

104

uMHO

Temperature:

17.33 Dissolved Oxygen: 9.14

mg/L

Other:

Flow:

K00002394008

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 0.1

Project Site No.:

Station No.: EMORY000.1RO

Date/Time Collected: Sampler's Name:

05/20/2009 12:17

County:

Geoff Klein ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH: 7.51

Chlorine, residual:

103

pH Units uMHO

Conductivity:

Temperature:

18.10

Dissolved Oxygen: 10.16

mg/L

Other:

Flow:

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/26/2009				S Ufegbu	5/26/2009

TEST: ICP	ME	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	230	μg/L	2.9	10	A Bass	5/29/2009

TEST: ICP-MS	ME.	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	310	μg/L	64.0	100	A Wilson	6/8/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/8/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/8/2009
Barium	35	μg/L	2.5	- 5	A Wilson	6/8/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/8/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/8/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/8/2009
Cobalt	0.28J	μg/L	0.04	1	A Wilson	6/8/2009
Copper	2.4	μg/L	0.38	1	A Wilson	6/8/2009
Lead	0.44J	μg/L	0.10	1	A Wilson	6/8/2009
Manganese	48	μg/L	0.42	1	A Wilson	6/8/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/8/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/8/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/8/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/8/2009
Zinc	4.9J	μg/L	1.9	5	A Wilson	6/8/2009

TEST: Mercury	MET	HOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394008

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA ash spill

Project Site No.:

Station No.:

EMORY000.1RO 12:17

Date/Time Collected: Sampler's Name:

05/20/2009 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC

Date/Time Received:

06/30/2009 05/20/2009 15:15

Received By:

TEST: Mercury

Ken Hitchman

		
METHOD	FPA	245 1

Field Determinations

Dissolved Oxygen: 10.16

Chlorine, residual:

Conductivity:

Temperature:

7.51

103

18.10

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.03J	μg/L	0.029	0.2	A Bass	5/27/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394009

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA ash spill

Project Site No.:

Station No.:

CLINC002.3RO

Date/Time Collected: Sampler's Name:

05/20/2009 12:30

County:

Geoff Klein ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.86

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature:

179

16.40

Dissolved Oxygen: 10.65

mg/L

Other:

Flow:

CFS .

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/26/2009				S Ufegbu	5/26/2009

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	230	μg/L	2.9	10	A Bass	5/29/2009	

TEST: ICP-MS	MET	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	420	μg/L	64.0	100	A Wilson	6/8/2009
Antimony	U ·	μg/L	. 0.33	1	A Wilson	6/8/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/8/2009
Barium	35	μg/L	2.5	5	A Wilson	6/8/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/8/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/8/2009
Chromium	· U	μg/L	2.0	5	A Wilson	6/8/2009
Cobalt	0.29J	μg/L	0.04	1	A Wilson	6/8/2009
Copper	2.2	μg/L	0.38	1	A Wilson	6/8/2009
Lead	0.43J	μg/L	0.10	1	A Wilson	6/8/2009
Manganese	42	μg/L	0.42	1	A Wilson	6/8/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/8/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/8/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/8/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/8/2009
Zinc	3.9J	μg/L	1.9	5	A Wilson	6/8/2009

TEST: Mercury	MET	HOD: EPA 24	5.1			·
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394009

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA ash spill

5

Project Site No.: Station No.:

CLINC002.3RO

Date/Time Collected:

05/20/2009 12:30

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations pH: 7.86 Chlorine, residual:

Conductivity: 179

uMHO 16.40

Temperature: Dissolved Oxygen: 10.65

mg/L

Other: Flow:

CFS

pH Units

TEST: Mercury	ME	THOD: EPA 24	5.1		,	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	5/27/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394010

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA ash spill

Project Site No.:

5A

Station No.:

KingAshOutF2

Date/Time Collected:

05/20/2009 12:38

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

Field Determinations

pH:

7.68

pH Units

Chlorine, residual:

Conductivity:

169

uMHO

Temperature:

18.90 Dissolved Oxygen: 9.58

mg/L

Other:

Flow:

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	05/26/2009		-		S Ufegbu	5/26/2009

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	360	μg/L	2.9	10	A Bass	5/29/2009	

TEST: ICP-MS	ME.	THOD: EPA 20	0.8			· · · · · · · · · · · · · · · · · · ·
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	560	μg/L	64.0	100	A Wilson	6/8/2009
Antimony	0.36J	μg/L	0.33	1	A Wilson	6/8/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/8/2009
Barium	39	μg/L	2.5	5	A Wilson	6/8/2009
Beryllium	U	μg/L	0.11	. 1	A Wilson	6/8/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/8/2009
Chromium	2.6J	μg/L	2.0	5	A Wilson	6/8/2009
Cobalt	0.42J	μg/L	0.04	1	A Wilson	6/8/2009
Copper	4.4	μg/L	0.38	1	A Wilson	6/8/2009
Lead	0.73J	μg/L	0.10	1	A Wilson	6/8/2009
Manganese	52	μg/L	0.42	1	A Wilson	6/8/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/8/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/8/2009
Thallium	0.058J	μg/L	0.03	1	A Wilson	6/8/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/8/2009
Zinc	4.7J	μg/L	1.9	5	A Wilson	6/8/2009

TEST: Mercury	 ME	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394010

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA ash spill

Project Site No.:

5A

Station No.:

KingAshOutF2

Date/Time Collected:

05/20/2009 12:38

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

TEST: Mercury

Ken Hitchman

METHOD: EPA	245.1

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	5/27/2009

Field Determinations

Dissolved Oxygen: 9.58

Chlorine, residual:

Conductivity:

Temperature:

7.68

169

18.90

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002394011

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Sampler Project Name: TVA ash spill

Project Site No.:

6

Station No.:

CLINC004.5RO

Date/Time Collected:

05/20/2009 12:49

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

06/30/2009

Date/Time Received:

TEST: Digestion Metals

05/20/2009 15:15

Received By:

Ken Hitchman

ANALYTE

METHOD: EPA 200.2

UNITS

RESULT

MDL

MQL **ANALYZED BY:**

7.91

239

14.57

Field Determinations

Dissolved Oxygen: 10.78

Conductivity:

Temperature:

pH:

Other:

Flow:

DATE

Digestion Metals

05/26/2009

S Ufegbu

5/26/2009

pH Units

uMHO

mg/L

TEST: ICP	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
lron	370	μg/L	2.9	10	A Bass	5/29/2009

TEST: ICP-MS	METHOD: EPA 200.8					
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Aluminum	510	μg/L	64.0	100	A Wilson	6/8/2009
Antimony	Ū	μg/L	0.33	1	A Wilson	6/8/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/8/2009
Barium	35	μg/L	2.5	5	A Wilson	6/8/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/8/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/8/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/8/2009
Cobalt	0.32J	μg/L	0.04	1	A Wilson	6/8/2009
Copper	1.8	μg/L	0.38	1	A Wilson	6/8/2009
Lead	0.54J	μg/L	0.10	1	A Wilson	6/8/2009
Manganese ·	51	μg/L	0.42	1	A Wilson	6/8/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/8/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/8/2009
Thallium	U	μg/L	0.03	1	A Wilson	6/8/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/8/2009
Zinc	3.3J	μg/L	1.9	5	A Wilson	6/8/2009

TEST: Mercury	METHOD: EPA 245.1			•		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

K00002394011

Project Name:

TVA-Ash Spill

Sample Description:

pH: Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 10.78

Conductivity:

Temperature:

Other:

Flow:

7.91

239

14.57

pH Units

uMHO

mg/L

CFS

Sampler Project Name: TVA ash spill

Project Site No.:

Station No.:

Date/Time Collected:

CLINC004.5RO

Sampler's Name:

05/20/2009 12:49 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 06/30/2009

Date/Time Received:

05/20/2009 15:15

Received By:

Ken Hitchman

TEST: Mercury	METHOD: EPA 245.1				· · · · · · · · · · · · · · · · · · ·	
ANALYTE	RĖSULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	μg/L	0.029	0.2	A Bass	5/27/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit